The Resilience Handbook

Approaches to Stress and Trauma

Edited by
Martha Kent, Mary C. Davis, and John W. Reich

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7 Responding to Trauma and Loss
An Emotion Regulation Perspective

Matthew Tyler Boden, Madhur Kulkarni, Ashley Shurick, Marcel O. Bonn-Miller, and James J. Gross

Community- and population-based studies have found that, during their lifetimes, a majority of people will be exposed to at least one event which involves actual or threatened death, serious injury, or a threat of physical injury to self or significant others (e.g., Breslau et al., 1998). Although such events involve a marked disruption in everyday routines, individuals have a wide range of psychological and physical reactions to such events. In fact, such events are labeled by researchers as "potentially traumatic" to emphasize that not everyone experiences these aversive events as traumatic (Bonanno, 2004). For the sake of brevity, we will refer to these experiences as "trauma" and "loss" throughout this chapter.

Importantly, individuals differ not only in their immediate responses to trauma and loss, but also in their longer-term responses and outcomes. Whereas some individuals develop significant symptoms of posttraumatic stress, depression, and related dysfunction, most individuals have relatively healthy reactions following such events and do not develop notable pathology (see Bonanno, 2004; also see Kessler, Chiu, Demler, Merikangas, & Walters, 2005).

Many factors influence whether individuals who experience trauma or loss will experience positive or negative outcomes (Bonanno, 2004; Zoellner & Maercker, 2006). In this chapter, we argue that emotion regulation is one such factor, and describe a framework for understanding how one's regulation of emotion in the immediate to long-term aftermath of trauma and loss can contribute to varying degrees of adaptation, and hence to positive or negative outcomes. First, we briefly review responses to trauma and loss. Second, we discuss emotion and emotion regulation. Third, we use basic affective science research to build a framework for understanding how emotion regulation contributes to varying degrees of adaptive emotional responding. Fourth, we apply this framework to trauma and loss. Finally, we consider wider implications for increasing recovery and resilience.

RESPONSES TO TRAUMA AND LOSS

It is now clear that there are numerous psychological responses to trauma and loss. These responses can be distilled into four prototypical patterns (i.e., resilience, recovery, chronic, and delayed; Bonanno, 2004) that vary in terms of the intensity and duration of posttraumatic stress and/or depressive symptoms and related dysfunction. Posttraumatic stress symptoms are characterized by re-experiencing of the trauma (e.g., recurrent nightmares, flashbacks), hyperarousal (e.g., irritability or exaggerated startle response), avoidance of stimuli associated with the trauma, and emotional numbing, while depressive symptoms are characterized by dysphoria, diminished interest or pleasure in activities, feelings of

worthlessness or guilt, thoughts of death and suicidal ideation, and significantly increased or decreased appetite, weight, sleep problems, concentration, and psychomotor activity (American Psychiatric Association, 2000). Related dysfunction includes, but is not limited to, homelessness, financial loss, legal problems, occupational difficulties, problems in social relationships, physical health problems, and other psychiatric comorbidities (e.g., Cloitre, Miranda, Stovall-McClough, & Han, 2005; Dobie et al., 2004; Schnurr & Green, 2004; Schnurr, Lunney, Bovin, & Marx, 2009).

As shown in Figure 7.1, "resilience" refers to an individual who experiences modest to no disruption in normal functioning and maintains relatively stable, healthy levels of psychological functioning following a traumatic event. The "recovery," "chronic," and "delayed" patterns are all characterized by the onset of sub-threshold to clinically significant posttraumatic stress and/or depressive symptoms and related dysfunction, and differ in terms of when the symptoms begin and how long they last. The "recovery" and "chronic" patterns can be characterized by immediate onset of pervasive symptoms and dysfunction of varying intensity. However, whereas the "recovery" pattern is characterized by a relatively rapid reduction in symptoms and return to normal functioning, the "chronic" pattern is characterized by symptoms and dysfunction of a long duration. The "delayed" pattern is characterized by a gradual increase in symptoms and dysfunction, which are likely to be chronic.

Although distinguishing among these four patterns may give the impression of entirely distinct trajectories, we note that all individuals who experience symptoms following trauma and/or loss can develop clinically significant and chronic posttraumatic stress disorder (PTSD) and/or major depressive disorder (MDD). Likewise, all individuals who manifest symptoms have the potential to recover and experience positive outcomes. One such outcome is posttraumatic growth, which is conceptualized as the subjective experience of positive psychological change relative to an individual's prior level of functioning as a result of experiencing a highly challenging life circumstance, and the learning that occurred through the struggle to cope with these events (see Linley & Joseph, 2004; Zoellner & Maercker, 2006). Posttraumatic growth can include positive changes such as growth and/or intimacy

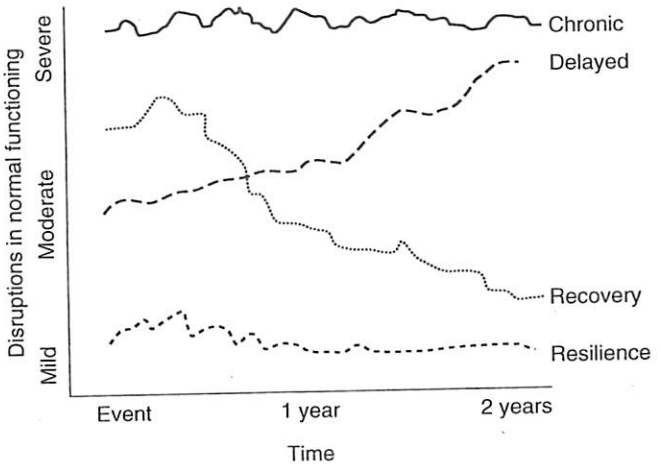

Figure 7.1 Disruption in normal functioning across time following potentially traumatic events and interpersonal loss distilled into prototypical pathways. Adapted with permission from Bonanno (2004). Copyright 2005 by the American Psychological Association.

in relationships, greater sense of personal strength, recognition of new possibilities, and increased appreciation for life. In some cases, as people learn to manage the demands of trauma and loss, they may become more resilient to the impact of future traumas and losses (Linley & Joseph, 2004; Zoellner & Maercker, 2006).

A pressing question in the study of responses to trauma and loss is what factors determine a person's longer-term trajectory. Factors such as the type of event (e.g., combat exposure, sexual assault, death of a child), the age of exposure, and self-esteem have regularly been found to influence responses to trauma and loss (Bonanno, 2004; Friedman, Keane, & Resick, 2007; Linley & Joseph, 2004; Zoellner & Maercker, 2006). We propose that emotion regulation is one important additional factor that influences whether an individual is resilient to the effects of trauma and loss, recovers relatively quickly, or is chronically impaired by depression and/or posttraumatic stress symptoms and related dysfunction.

EMOTION AND EMOTION REGULATION

Emotions are generally viewed as coordinated, biologically based responses to internal or external cues that are perceived as relevant to an organism's needs, goals, or concerns (Scherer, Schorr, & Johnstone, 2001). To define emotions, many find it useful to consider three core features of a prototypical or commonly experienced emotion: (a) emotion antecedents, (b) emotion responses, and (c) the link between emotion antecedents and responses.

Emotion antecedents are situations that are relevant to an individual's present concerns, which may be expressed as goals, traits, attitudes, beliefs, and sensitivities to particular stimuli. Concerns predispose individuals to respond emotionally to particular situations as they are appraised in terms of a number of psychological dimensions (e.g., pleasantness, novelty; Scherer, 1999). Appraisals are the moment-by-moment evaluations of the personal significance of the situation (Scherer, 1999).

Appraisals give rise to multifaceted, whole-body emotion responses, which involve loosely coupled changes in subjective experience, cognition (e.g., attention), behavior, and central and peripheral physiology (Mauss, Levenson, McCarter, Wilhelm, & Gross, 2005). These responses are mentally represented as subjective experience, or "feelings" (see Barrett, Ochsner, & Gross, 2007). They are often expressed as behavior via bodily responses involving motivation and motor systems (e.g., attacking a person who threatens you) that are supported by changes in central physiology (e.g., neuroendocrine changes) and peripheral physiology (e.g., increased blood flow to the limbs). These physiological changes immediately precede and follow the behavioral response and support the motor system responses associated with emotions.

Emotion antecedents and responses are flexibly linked in a manner that allows for continual changes in emotional responses. In other words, emotional responses can be continually adapted to the specific requirements of a given situation as these requirements vary as a result of changes in (a) the situation itself or (b) the meaning of the situation in terms of the goals of the individual. It is in part because of the flexibility of links between emotion antecedents and responses that emotional responses are so often adaptive, and, when they are not, they may be regulated in various ways.

Emotion regulation may involve initiating, increasing, or maintaining an emotion response (i.e., up-regulating) or stopping, decreasing, or avoiding an emotional response (i.e., down-regulating), depending on an individual's goals and his or her ability to regulate

emotions in valued directions (Gross, 2007). Emotion regulation processes may target one domain of emotional responding (e.g., facial expression), while others (e.g., cardiovascular responding) may be left untouched. Additionally, emotion regulation processes may be more or less consciously initiated and controlled. In other words, emotion regulation processes vary in the extent to which they are purposely engaged to modulate emotions. We note that emotion regulation and coping are similar, but not redundant, constructs, and particular strategies (e.g., distraction) can be classified as both coping and emotion regulation strategies (Gross, 1998a). Therefore, much of the literature on stress and coping can be applied to understand emotion regulation, and vice versa.

Many different strategies can be used to regulate emotions. One useful and empirically supported heuristic parses these strategies into five classes (Gross, 1998a). Each class consists of a set of related processes, all of which may be employed to influence emotions. *Situation selection* involves acting in ways that make it more or less likely that one will be in a situation in which one experiences particular emotions (e.g., avoiding driving after a traumatic motor vehicle accident to avoid trauma-related fear and panic). Should the situation be unavoidable, one may try to *modify the situation* by changing some aspect of it to lessen or increase the emotional response once in the situation (e.g., driving in a safer car). One may also attempt to direct one's attention within a situation (i.e., *attentional deployment*) to regulate one's emotions (e.g., listening to loud music or talking on the phone while in the car). *Cognitive change* refers to altering one's appraisal (i.e., cognitive reappraisal) of the significance and meaning of an affective state, the eliciting situation, and/or the demands of the situation so as to change its emotional significance once the emotional response has begun (e.g., change the situational core meaning from "I am going to crash again" to "I will stay vigilant to prevent a car crash"). A fifth class of emotion regulation, *response modulation*, refers to directly influencing physiological, experiential, or behavioral responding after emotional responses have been initiated (e.g., suppressing the experience of fear as it occurs while driving).

EMOTION REGULATION AND ADAPTATION

Emotion regulation that contributes to adaptive emotional responding serves as a core process that bolsters psychological health across a variety of life domains (e.g., social, vocational, residential; Gross, 2007), and prevents or decreases mental illness among vulnerable individuals. Alternatively, emotion regulation that contributes to maladaptive emotional responding decreases psychological health across a variety of life domains, and causes or maintains mental illness among vulnerable individuals (Werner & Gross, 2010).

In this section, we describe an integrative framework in which emotion regulation is associated with greater or lesser adaptation depending on six proximal factors. As shown in Figure 7.2, these factors include (1) whether an emotion regulation strategy is used to modulate emotions, and (2) the type of strategy that is used, and whether the utilized strategy is a good match to (3) the emotion-eliciting situation and (4) the goals of the individual (i.e., context-sensitive), (5) well implemented (i.e., effective), and (6) flexibly applied over time and situation (i.e., flexible).

Emotional responses are not always of a type, duration, and/or intensity to facilitate adaptive responses in a given situation. For example, a trauma-exposed individual may experience heightened perception of threats to trauma-related stimuli that are not actually dangerous in the current environment, which trigger rapid, exaggerated, and maladaptive

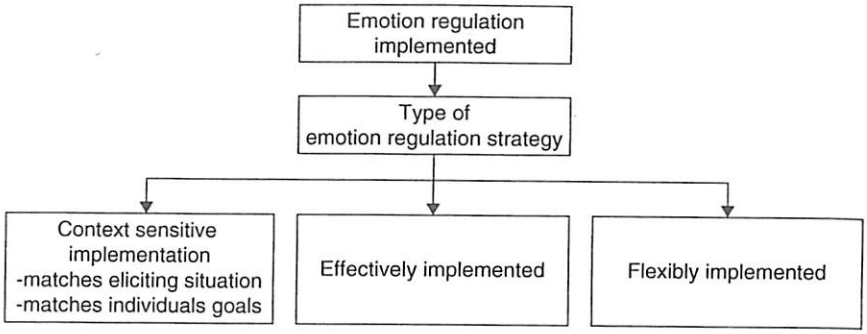

Figure 7.2 Factors influencing the adaptiveness of emotion regulation.

emotional responses (Pole, 2007). Therefore, emotional responses must sometimes be up- or down-regulated to increase the likelihood of a context-appropriate emotional response (e.g., down-regulation of frustration when receiving a ticket for speeding from a police officer).

The adaptive quality of emotion regulation will be influenced by the type of strategy that is employed. Some strategies may be effective in helping an individual to regulate emotions in a majority of contexts (e.g., acceptance), whereas others will be more limited. For example, regulating emotions by drinking alcohol may reduce short-term anxiety, but may hinder the achievement of long-term instrumental goals (e.g., sustained employment) when used repeatedly and excessively. A core underlying premise of our framework is that any emotion regulation strategy may be adaptive when effectively implemented in a context-sensitive and flexible manner. Thus, our framework is not consistent with the common view that particular emotion regulation strategies are adaptive or maladaptive independent of context. For example, although avoidant emotion regulation may be associated with maladaptive outcomes in some contexts, it is may also be quite beneficial in others (see next section for more detail). Because the benefits of a specific type of emotion regulation strategy will vary by context-dependent factors, the adaptiveness of a particular type of emotion regulation strategy is closely related to the extent to which the strategy is used in a context-sensitive manner.

To be adaptive, emotion regulation must be sensitive to context in terms of situational demands. A nuanced approach will often be needed to adaptively respond to the situation-specific demands. For example, adaptive behavioral responses associated with the experience of frustration in response to criticism by a boss (e.g., thanking the boss for the excellent feedback) will likely vary from those in response to criticism by a romantic partner (e.g., asking for a more detailed explanation and time for discussion). The use of an emotion regulation strategy may be needed to help tailor the emotional response to situation-specific demands. However, not all emotion regulation strategies will be equally beneficial in this regard for all individuals in all situations. Following the previous example, suppression of emotional expression may be beneficial in terms of frustration associated with the boss's criticism, whereas cognitive reappraisal (e.g., he/she loves me although he/she has these criticisms) may be beneficial in response to the frustration associated with the romantic partner's criticism. Therefore, to adaptively tailor the emotional response to meet situation-specific demands, emotion regulation strategy choice must be context-sensitive.

Additionally, whether a particular emotion regulation strategy is beneficial crucially depends on the goals of the individual engaging in emotion regulation (Werner & Gross,

2010). Theorists and researchers have traditionally considered the primary function of emotion regulation to be hedonic (i.e., emotions are regulated to increase/maintain positive affect and decrease/avoid negative affect). However, recent empirical research has shown that both positive and negative emotions can facilitate achievement of instrumental goals, and that people are willing to forgo immediate hedonic gains to pursue longer-term instrumental goals (e.g., gain and/or maintain relationships, employment, housing, physical/mental health; Tamir, 2009). Therefore, people regulate their emotions for both immediate hedonic and longer-term instrumental goals, and both hedonic and instrumental goal achievement can be facilitated through emotion regulation (Tamir, 2009). Situational demands will serve as constraints on whether and which hedonic and/or instrumental goals can be pursued in any given situation. For example, to adaptively respond to one's critical boss for the purpose of maintaining employment, one might use an emotion regulation strategy that helps to reduce anger in a manner that allows for continued pleasant interactions (e.g., suppression) rather than one that merely reduces anger (e.g., avoidance). For a given individual, hedonic goals will be most salient in some situations, and instrumental goals will be most salient in others. In these instances, adaptive emotional responses will be associated with the choice of emotion regulation strategies that are likely to facilitate achievement of hedonic or instrumental goals, respectively. However, in many situations, it is likely that both hedonic and instrumental goals will be salient to some extent. Here, adaptive emotional responses will be associated with the choice of emotion regulation strategies that have the greatest likelihood of modulating emotions in order to meet instrumental goals while maintaining immediate hedonic equilibrium (Werner & Gross, 2010). For example, one may want to down-regulate anxiety while being interviewed for a job to reduce unpleasant sensations (i.e., hedonic goal) while also increasing the likelihood of being perceived as calm and thus obtaining the job (i.e., instrumental goal). Again, not all emotion regulation strategies will be equally beneficial in this regard for all individuals in all situations. Emotion regulation strategy choice must therefore be context-sensitive to tailor the emotional response to match the goals of the individual.

Another factor that influences the extent to which emotion regulation contributes to adaptation is whether the implementation of a particular emotion regulation strategy is actually effective at tailoring the emotional response to situational demands and the goals of the individual, or, in other words, whether the emotion regulation strategy is effective at increasing, decreasing, avoiding, or maintaining an emotional response to match situation-specific demands and related hedonic and/or instrumental goals. Following our example of receiving criticism from a boss, suppression of emotional expression may be beneficial at reducing frustration for the purpose of keeping one's job (i.e., instrumental goal), although it may not reduce unpleasant sensations (i.e., hedonic goal; Gross, 1998a). This may ultimately prove to be an example of adaptive emotion regulation use because situational demands have increased the salience of instrumental goals. The use of a particular emotion regulation strategy will contribute to less adaptive responses when it is not effective: (a) at tailoring the emotional response to match situational demands (e.g., one uses the strategy of emotional discharge, or yelling at one's boss), (b) at helping the individual achieve either hedonic or instrumental goals (e.g., yelling at one's boss makes one angrier while costing one the job), or (c) the costs to instrumental goals outweigh any benefit of hedonic goal achievement (e.g., one continually uses alcohol to effectively reduce anger and sadness, which hinders one's ability to find a new job).

To contribute to adaptive emotion responding, the choice of emotion regulation must be flexibly applied over time and across situations. Following the argument above, a given strategy that is effectively implemented in one situation may not be as effective in a similar

situation as a result of changes in situation-specific demands and in hedonic/instrumental goals. Even strategies that are effective in a particular situation may become less so as the situation and its demands evolve. Therefore, emotion regulation strategies must be implemented in a flexible manner that allows for continual updating to match evolving situational demands and hedonic/instrumental goals.

EMOTION REGULATION AND RESPONSE TO TRAUMA OR LOSS

In this section, we apply our framework to describe how emotion regulation that is context-sensitive, effective, and flexible will facilitate positive outcomes (resilience, recovery, post-traumatic growth) following trauma and loss, whereas emotion regulation that is context-insensitive, ineffective, and inflexible will hinder positive outcomes, and promote negative outcomes (posttraumatic stress/depressive symptoms and related dysfunction).

For some individuals, the experience of trauma/loss will not contribute to changes in emotional responding. We posit that this is in part due to emotion regulation being optimally balanced to effectively and flexibly modulate emotions to manage long-standing emotional responding and instrumental goals. Therefore, changes to emotion regulation (e.g., increased use, flexibility) will not be needed to return to pre-trauma/loss functioning, which may have been more or less adaptive. However, increases in emotional disturbances (e.g., heightened perceptions of threat and emotional reactivity; Pole, 2007), which are a core feature of PTSD/MDD symptomatology, will occur in many individuals. These increases may be quite modest (i.e., resilience pathway; see Figure 7.1) to quite large, and may range from immediate to delayed onset and shorter to longer duration. Thus, these trauma/loss-exposed individuals will need to increase their use of emotion regulation strategies to modulate emotions to return to pre-trauma/loss functioning. Furthermore, those who are able to choose emotion regulation strategies that are sensitive to situational demands and emotion regulation goals and effectively implement them will be more likely to experience recovery (i.e., recovery pathway). Individuals with chronic and high levels of posttraumatic stress/depressive symptoms and related dysfunction (i.e., delayed and chronic pathways), will need to more effectively implement emotion regulation strategies in a context-sensitive and flexible manner to experience recovery.

As the level of posttraumatic stress/depressive symptoms and related emotional disturbances increases following the experience of trauma/loss, so will the need to implement emotion regulation strategies, in an effective, flexible, and context-sensitive manner. This will facilitate a return to normal functioning. The greater the extent to which the emotional disturbance is pervasive and disruptive, and occurs in response to an over-inclusive range of stimuli, the greater an adaptive balance will be tilted in favor of hedonic goals. In these contexts, individuals may benefit from using emotion regulation strategies that effectively reduce or manage heightened emotional reactivity in a broad range of contexts. A large body of research documenting the substantial use of avoidance-oriented regulation strategies among trauma/loss-exposed populations (e.g., Hayes, Wilson, Gilford, Follette, & Strosahl, 1996) suggests that avoidance-oriented strategies may be useful in this regard. This hypothesis is further supported by basic research demonstrating that avoidance-oriented emotion regulation strategies are frequently chosen to regulate intense emotions (Sheppes, Scheibe, Suri, & Gross, 2011), and these strategies are particularly effective in doing so (Dan-Glauser & Gross, 2011; Sheppes & Gross, 2011). Thus, these strategies may be effective and contextually appropriate when hedonic relief is of paramount importance.

As emotional disturbances subside as a result of various factors (e.g., effective down-regulation of anxiety, time since the trauma/loss), individuals who are able to flexibly implement emotion regulation strategies in a manner that effectively facilitates instrumental goals will likely experience greater adaptive emotional responding. The most important instrumental goal will be to process and integrate the experience of trauma/loss (e.g., learning that trauma-related cues are not a substantial threat in the current context). Here, emotion regulation strategies must be effective at reducing or managing emotional reactivity so that processing of the trauma/loss can occur with minimized disruption. Additional instrumental goals may range from those that were salient before the trauma/loss to newly posited instrumental goals that are salient because of the trauma/loss (e.g., physical healing). Therefore, emotion regulation strategies must be effective at helping an individual manage emotions associated with the pursuit of these instrumental goals (e.g., frustration) that facilitate a return to pre-trauma levels of functioning. As trauma/loss-exposed individuals may experience periodic increases of heightened emotional disturbances, they must also be able to flexibly switch between emotion regulation strategies that are optimized to achieve hedonic or instrumental goals. In this manner, recovery following trauma and loss will in part be achieved by using emotion regulation strategies that match situational demands while flexibly and effectively facilitating achievement of immediate hedonic goals and the pursuit of longer-term instrumental goals.

Numerous studies have found that avoidant regulation strategies, in addition to cognitive reappraisal and acceptance, are associated with positive outcomes (resilience, reduced PTSD severity, increased posttraumatic growth) following trauma and loss (e.g., Bernstein, Tanay, & Vujanovic, 2011; Bonanno, Keltner, Holen, & Horowitz, 1995; Bonanno, Noll, Putnam, O'Neill, & Trickett, 2003; Eftekhari, Zoellner, & Vigil, 2009; Ehring & Quack, 2010; Park, Aldwin, Fenster, & Snyder, 2008; Thompson & Waltz, 2010; Vujanovic, Youngwirth, Johnson, & Zvolensky, 2009; also see Linley & Joseph, 2004; Zoellner & Maercker, 2006). Consistently with previous theorists (e.g., Bonanno et al., 2003), we posit that these strategies were flexibly matched to situational demands, and effectively reduced hedonic distress to allow for systematic and relaxed processing of the trauma and/or pursuit of instrumental goals when heightened emotional reactivity was acute and disruptive following the trauma/loss.

Trauma/loss-exposed individuals who are unable or unwilling to use emotion regulation strategies in a context-sensitive, effective, and/or flexible manner will be more likely to experience paradoxical increases in emotional disturbances, as well as chronic posttraumatic stress/depressive symptoms and related dysfunction. These individuals may often use strategies that are ineffective at achieving emotion regulation goals, such as rumination (Clohessy & Ehlers, 1999; Ehlers, Mayou & Bryant, 1998). However, we posit that the inflexible and context-insensitive use of emotion regulation strategies is more problematic. Specifically, an adaptive balance between hedonic and instrumental goals is not maintained; the individual continually uses emotion regulation strategies to achieve hedonic relief (e.g., reduced sadness, despair, anxiety) at the expense of instrumental goals, the most important of which is the processing and integration of the trauma/loss. Owing to the extensive resources used to achieve hedonic goals, few resources are left to expend on secondary instrumental goals, which are needed to facilitate a return to pre-trauma levels of functioning.

Although avoidance-oriented regulation strategies have been associated with positive outcomes following trauma/loss, cross-sectional, prospective, and experimental studies have further documented associations between these strategies and heightened levels of PTSD

symptom severity (e.g., Amir et al., 1997; Hepp, Moergeli, Buchi, Wittmann, & Schnyder, 2005; Jacobsen et al., 2002; Schnider, Elhai, & Gray, 2007). Additionally, avoidant coping has been found to amplify the positive, prospective relation between emotion reactivity (i.e., heart rate) to trauma-related cues and PTSD symptom severity among trauma-exposed individuals in the immediate aftermath of trauma (Pineles et al., 2011). Based on our framework, we posit that avoidance-oriented strategies may be beneficial when flexibly implemented in specific contexts (e.g., when experiencing high emotional reactivity). Avoidance-oriented strategies may not be useful when rigidly applied in a context-insensitive manner, as they may actually inhibit the processing of the trauma. Here, trauma/loss-related cues, which contribute to emotional disturbances, are avoided, and an individual remains sensitive to their impact. Furthermore, avoidance limits the ability of the individual to achieve other types of instrumental goals that would facilitate recovery, especially those that are salient because of the trauma/loss. This is because the pursuit of such goals would entail engagement with trauma/loss-related stimuli and, hence, increase emotional disturbances. Furthermore, avoidance-oriented strategies may directly maintain or increase symptoms through paradoxical processes. Here, a large body of research has demonstrated paradoxical increases in thoughts and emotions when an individual attempts to avoid or suppress them (e.g., Gross, 1998b; Wenzlaff & Wegner, 2000). If an individual does not have the ability to flexibly and effectively implement other types of emotion regulation strategies, he/she may continue to experience PTSD/MDD symptoms and dysfunction, potentially of a greater intensity or duration.

Increased posttraumatic growth and resilience are likely to result from emotion regulation that regularly contributes to adaptive emotional responding following trauma and loss. This will occur via: (a) increases in confidence in the ability to manage the emotional demands of the current trauma/loss and future traumas and losses; and (b) strengthened belief in the ability to influence and learn from both pleasant and unpleasant emotions, and their causes and consequences (Benight & Bandura, 2004; Bonanno, 2004; Connor, 2006). These factors, along with increased actual ability to cope with and regulate emotions associated with trauma and loss, will promote posttraumatic growth and resilience to future traumas and losses.

IMPLICATIONS FOR INCREASING RECOVERY AND RESILIENCE

Our framework suggests that improving adaptive emotional responding following trauma by targeting emotion regulation may enhance positive outcomes following trauma and loss. Emotion regulation may be effectively targeted in this manner through psychosocial interventions designed for this purpose. For example, a variety of existing treatments for PTSD actively target emotion regulation (e.g., cognitive processing therapy [CPT]; Resick & Schnicke, 1992; skills training in affective and interpersonal regulation [STAIR]; Cloitre, Koenen, Cohen, & Han, 2002). For example, cognitive-behavioral therapies attempt to reduce the use of avoidance-oriented regulation strategies through exposing participants to feared stimuli until habituation occurs, and increase the use of emotion regulation strategies such as cognitive restructuring (i.e., cognitive reappraisal; Hamblen, Schnurr, Rosenberg, & Eftekhari, 2009). While these therapies are effective in reducing PTSD symptoms and increasing recovery (Hembree & Foa, 2010), further benefits might be accrued by modifying therapies or developing new therapies to target emotion regulation in accordance with the premises of our framework.

Specifically, teaching patients when to use emotion regulation or to use one strategy (e.g., cognitive reappraisal) versus another (e.g., rumination) is not enough. Even typically adaptive emotion regulation strategies that are taught as part of "gold-standard" treatments for PTSD may not always be associated with reduced symptomatology (Boden, Bonn-Miller, Kashdan, Alvarez, & Gross, 2012). Here, it might be useful to teach patients how to choose emotion regulation strategies in a context-sensitive manner, and effectively and flexibly implement them. This would require patients to attend to and understand their emotional experiences (i.e., high emotional awareness), including salient hedonic and instrumental goals for which emotions are regulated. Patients would also need to increase their ability to choose emotion regulation strategies that are effective at facilitating achievement of these goals while maintaining a balance between them. For example, patients with PTSD often utilize strategies, such as avoidance and alcohol and drug use, to achieve immediate hedonic relief. Although such strategies may provide temporary hedonic relief, they do so at the expense of achievement of instrumental goals. Therefore, patients might be taught to identify salient instrumental goals and how such strategies hinder instrumental goal achievement. This might increase their willingness and ability to engage in empirically validated, but often distressing, procedures that directly reduce perceptions of threat and heightened emotional reactivity (e.g., systematic exposure to feared stimuli; Foa, Hembree, & Rothbaum, 2007). Additionally, they might be taught strategies that facilitate both hedonic and instrumental goal achievement (e.g., mindfulness-based strategies; Vujanovic, Niles, Pietrefesa, Schmertz, & Potter, 2011).

Alternatively, one might target distal processes that directly influence the six factors that contribute to adaptive emotion regulation, and thus contribute to global improvements in emotion regulation. One such process is emotional awareness, which can be conceptualized as the extent to which people attend to and understand their emotions (Coffey, Berenbaum, & Kerns, 2003). Emotional awareness is crucial, because the optimal use of emotion regulation is dependent on accurate tracking of ongoing emotions (Barrett & Gross, 2001). A high level of emotional awareness provides information that has the potential to facilitate a person's understanding of (1) when it would be beneficial to regulate emotions, (2) the type(s) of emotional regulation strategy that will be most (3) effective in matching nuanced (4) situational demands and (5) emotion regulation goals, and (6) when and how to flexibly modify emotion regulation, in the moment or otherwise, to increase its effectiveness (Barrett, & Gross, 2001). Thus, emotional awareness influences the proximal factors that determine the extent to which emotion regulation is adaptive, and through this amplifies the consequences of emotion regulation on responses to trauma and loss. These hypotheses are supported by theory and research demonstrating low levels of emotional awareness among individuals with PTSD and MDD (see Frewen, Dozios, Neufeld, & Lanius, 2008a; Luminet, Bagby, & Taylor, 2001), and inverse associations between emotional awareness posttraumatic stress and depressive symptom severity (e.g., Frewen, Dozios, Neufeld, & Lanius, 2008b; Honkalampi, Hintikka, Tanskanen, Lehtonen, & Viinamaki, 2000). Furthermore, a recent study conducted with trauma-exposed military veterans found that emotional clarity interacted with frequency of use of cognitive reappraisal to predict PTSD symptom severity and dispositional positive affect (Boden et al., 2012). Findings indicated that the combination of high levels of emotional clarity and frequent use of cognitive reappraisal were associated with (a) lower PTSD symptom severity, after accounting for positive affect and the extent to which emotions are attended to, and (b) greater positive affect, after accounting for PTSD symptom severity and attention to emotions.

Lastly, we posit that treatments that teach patients how to use emotion regulation strategies in a context-sensitive, effective, and flexible manner may be modified to prevent

posttraumatic and depressive symptomatology and promote resilience in populations at high risk for future trauma (e.g., active duty military, police officers). Compared to the potentially significant costs of negative outcomes following trauma exposure, the resources required to implement such treatments as part of routine training would likely be minimal. Furthermore, such prevention strategies may increase mental health in these populations, more broadly (Werner & Gross, 2010).

CONCLUDING COMMENT

Emotion regulation is increasingly recognized as a core process that influences mental health and illness in a variety of populations (Gross, 2007; Kring & Sloan, 2009). In this chapter, we have described a framework for understanding the key role of emotion regulation in influencing whether individuals experience negative or positive outcomes following trauma and loss. This framework has broad applicability as, unfortunately, a majority of people will experience trauma and loss during their lifetimes (e.g., Breslau et al., 1998). Clearly more work is needed to understand trauma and loss, and to prevent and mitigate negative outcomes and promote positive outcomes, as trauma and loss will always be an unpleasant aspect of human existence. We believe that the most important benefits of this framework will be realized in its application to guide prevention and treatment strategy development and implementation in a wide variety of contexts. As emotion regulation is increasingly recognized as a key intervention target (Kring & Sloan, 2009), we are optimistic that such work will impart broad and substantial benefits.

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